

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A communication system for use with a packet-based network comprising:

a first node configured to transmit data in data packets across the network; and

a second node configured to receive the data packets from the network and serialize the data;

wherein the second node ~~comprises~~ includes a buffer, said buffer ~~is being~~ is configurable to adjust to network packet delay variance through analysis of a packet delay variance measurement, as measured over at least one period of time, and

wherein the packet delay variance measurement includes monitoring, for the at least one period of time, a buffer depth of the buffer, the buffer depth being a temporal measurement of a delay that a data packet encounters from when the data packet is received by the buffer to when the data packet is serialized.

Claim 2 (cancelled)

3. (Currently Amended) The communication system of claim 1, wherein the said buffer having~~has~~ configurable parameter settings ~~for adjusting to adjust~~ the buffer in accordance with the packet delay variance analysis.

4. (Currently Amended) The communication system of claim 3, wherein the configurable parameter settings comprising:~~include a buff-set-first~~ parameter ~~for determining to determine~~ a period of time for data to be accumulated ~~into~~in the buffer before being serialized.

5. (Currently Amended) The communication system of claim 3, wherein the configurable parameter settings comprising~~include:~~

a ~~buff-max~~second parameter ~~for setting to set~~ an upper bound ~~on~~for comparison with an average buffer depth, the average buffer depth being determined by averaging instantaneous measurements of the buffer depth over a determined period of time; and

a ~~buff-min~~third parameter ~~for setting to set~~ a lower bound ~~on~~for comparison with the average buffer depth.

6. (Currently Amended) The communication system of claim 5,

wherein, if the average buffer depth is within a first proximity threshold of the ~~buff-max-second~~ parameter setting, the second node increases the ~~buff-max-second~~ parameter setting; and[[,]]

wherein, if the average buffer depth is outside a second proximity threshold of the ~~buff-max-second~~ parameter setting, the second node decreases the ~~buff-max-second~~ parameter setting.

7. (Currently Amended) The communication system of claim 5,

wherein the second node uses a clock signal ~~for serializing to serialize~~ the data packets received by the buffer; and[[,]]

wherein, if the average buffer depth is within a first proximity threshold of the ~~buff-min-third~~ parameter setting, ~~the a~~ clock signal frequency is decreased; and[[,]]

wherein, if the average buffer depth is outside a second proximity threshold of the ~~buff-min-third~~ parameter setting, the clock signal frequency is increased.

8. (Currently Amended) The communication system of claim 1,

wherein said the first node comprising includes a
transmitting clock,

said wherein the second node comprising further
includes a receiving clock, and

wherein ~~said the~~ transmitting clock and ~~said the~~
receiving clock are synchronized under nominal operating
conditions.

9. (Currently Amended) The communication system of
claim 1, wherein ~~said the~~ second node ~~additionally comprises~~
further includes a serializer.

10. (Currently Amended) A method of managing a buffer
in a node of a packet-based network, wherein said buffer has
~~configurable buff set, buff max and buff min parameters,~~
including a first parameter, a second parameter, and a third
parameter, and said node uses a clock, said method
comprising:

(a) setting initial values for the first, second, and
third buff set, buff max and buff min parameters;

(b) measuring buffer depth over a period of time;

(c) re-centering ~~the~~ said buffer if an underflow event

or an overflow event is detected; and

(d) adjusting ~~buff set, buff max and buff min~~ the first, second, and third parameters and ~~the said clock~~ according to the measured buffer depth.

11. (Currently Amended) The method of claim 10, wherein step (b) ~~comprises~~ further includes monitoring ~~the said~~ buffer for the period of time to acquire instantaneous buffer depth measurements.

12. (Currently Amended) The method of claim 10, wherein an occurrence of the underflow event is detected in step (c) by comparing buffer depth with the ~~buff min~~ third parameter.

13. (Currently Amended) The method of claim 12, wherein ~~an~~ the occurrence of the underflow event is detected if the buffer depth exceeds the ~~buff min~~ third parameter.

14. (Currently Amended) The method of claim 10, wherein an occurrence of the overflow event is detected in step (c) by comparing buffer depth with the ~~buff max~~ second parameter.

15. (Currently Amended) The method of claim 14,
wherein ~~an~~ the occurrence of the overflow event is detected
if the buffer depth exceeds the ~~buff-max~~ second parameter.

16. (Currently Amended) The method of claim 10, wherein
re-centering in step (c) comprises discarding ~~any~~ all data
packets in the ~~said~~ buffer.

17. (Currently Amended) The method of claim 10, further
comprising, if one of an occurrence of the underflow event
~~or and an occurrence of the~~ overflow event is detected in
step (c), ~~the step of increasing an a~~ corresponding one of
an overflow event count ~~or and~~ an underflow event count, and
comparing the corresponding ~~overflow event count or the~~
~~underflow event count~~ to a threshold to determine if a gross
adjustment is to be made to ~~buff-set~~ the first parameter.

18. (Currently Amended) The method of claim 10, wherein
step (d) ~~comprises~~ further includes:

increasing ~~buff-max~~ the second parameter if the
measured buffer depth is within a predetermined inner
proximity to ~~buff-max~~ the second parameter;

decreasing ~~buff-max~~ the second parameter if the
measured buffer depth is outside a predetermined outer
proximity to ~~buff-max~~ the second parameter;

decreasing ~~the a~~ clock speed if the measured buffer depth is within a predetermined inner proximity to ~~buff-min~~ the third parameter; and

increasing the clock speed if the measured buffer depth is outside a predetermined outer proximity to ~~buff-min~~ the third parameter.

19. (Currently Amended) The method of claim 10, wherein step (a) ~~comprises~~ further includes:

(i) setting ~~buffer~~ the first, second, and third parameters ~~buff-min, buff-max and buff-set~~ to pre-processing values;

(ii) receiving data packets ~~by the~~ at said node for a predetermined amount of time;

(iii) determining if data loss during the predetermined amount of time, with the first, second, and third parameters set at pre-processing values, is within an acceptable limit;

(iv) if the data loss is not within the acceptable limit, then adjusting ~~buff-min, buff-max and buff-set~~ the first, second, and third parameters accordingly, and repeating steps (ii) and (iii) until data loss is within the acceptable limit; and

(v) setting the adjusted values for the ~~buff set, buff~~
~~max and buff min~~ first, second, and third parameters to as
the ~~adjusted~~ pre-processing values.

20. (Currently Amended) A method of managing a buffer in a node of a packet-based network, wherein said buffer is configurable, and said node is adapted to receive synchronous circuit data in data packets, said method comprising:

- (a) setting initial values for buffer configuration;
- (b) receiving data ~~by the~~ at said node for a predetermined period of time, and detecting data loss during the predetermined period of time;
- (c) if the detected data loss is not acceptable, adjusting the buffer configuration and repeating step (b) until measured data loss is acceptable;
- (d) receiving further data ~~by the~~ at said node; and
- (e) periodically measuring buffer depth, and adjusting the buffer configuration based ~~upon~~ on results of said periodic buffer depth measurements.

21. (Currently Amended) The method of claim 20, wherein the buffer configuration is adjusted through configurable

parameters, including a first parameter, a second parameter,
and a third parameter.~~buff set, buff min, and buff max.~~

22. (Currently Amended) The method of claim 20, wherein
~~said the~~ node uses a clock, and ~~said the~~ buffer
configuration is adjusted by adjusting a speed of the clock.